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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,300

01/04/2007

Hans-Jorg Feigel

AP 10756

6692

52203 7590 02/01/2011

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EXAMINER

BURCH, MELODY M

ART UNIT

PAPER NUMBER

3657

MAIL DATE

DELIVERY MODE

02/01/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/567,300	Applicant(s) FEIGEL, HANS-JORG	
	Examiner Melody M. Burch	Art Unit 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-42 is/are pending in the application.
- 4a) Of the above claim(s) 35 and 37-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-34 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 23-42 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation of the pressure source consisting of a high pressure reservoir which is loaded by a means of a motor-pump aggregate in the environment of elected species figure 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Claim Objections

3. Claims 23-34 and 36 are objected to because of the following informalities: in line 2 from the bottom of claim 23 the phrase "separation valve (27-30)" should be changed because the term separation valve is singular but there are a plurality of numbers associated with the singular separation valve term. Applicant may consider the use of the phrase "at least one separation valve (27-30)" which may include a plurality of separation valves. Appropriate correction is required. The remaining claims are objected to due to their dependence from claim 23.

4. Claim 31 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 31 is dependent on itself. For examining purposes, Examiner has interpreted the claim as depending from claim 30.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 34 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claim 34. The phrase "a separation valve" in line 2 is indefinite since it is unclear to the Examiner whether Applicant intends for the separation valve in line 2 of claim 34 is intended to be a part of or distinct from the separation valves recited earlier in claim 34. If Applicant intends for the separation valve of line 2 of claim 34 to be a part of the other separation valves, Examiner recommends using such language as --wherein the at least one separation valve includes a plurality of separation valves, wherein one of the separation valves...--

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 23, 29, 32, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5568962 to Enomoto et al. in view of US Patent 5069508 to Maehara and 6007162 to Hinz et al. and US Patent 3133611 to Halsey et al.

Re: claims 23 and 36. Enomoto et al. show in figure 1 an electrohydraulic brake system for motor vehicles comprising: a brake pressure sensor PS1 or HB, which can be actuated by a brake pedal; a pressurizing medium reservoir RB1, having at least one electrohydraulic pressure source PP and the associated motor, by which pressure can be applied to wheel brakes WRL, WRR, WFL, WFR of the motor vehicle, wherein the brakes can be connected via at least one hydraulic connection, which can be sealed off by a separation valve V3; a device for identifying a deceleration instruction from a driver BS; inlet valves V13, V11, V9, V7 which are connected before the wheel brakes and outlet valves V14, V12, V10, V8 which are connected after the wheel brakes; an electronic control and regulation unit ECUB shown in figure 4, which, as a function of signals which are generated by the device for the detection of deceleration instruction from a driver, actuates the pressure source, the separation valve, as well as the inlet valves and the outlet valves; where the pressure source, the wheel brakes as well as the brake pressure sensor can be connected with the pressurizing medium reservoir as shown, but is silent with regards to a valve block, which receives the separation valve, as well as the inlet valves and the outlet valves, wherein the brake pressure sensor is integrated in the valve block in such a manner that all of the hydraulic connections between the brake pressure sensor and the separation valve, of which there is at least one, as well as the inlet valves are formed by bores in the valve block.

Maehara teaches in figure 9 the limitation wherein there is a valve block A, B4 which receives inlet valves HV1-4, outlet valves DV1-4, and an additional valve TCV.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the brake system of Enomoto et al. to have included a valve block receiving the inlet valves, outlet valves, and an additional valve in the form of a separation valve, in view of the teachings of Maehara, in order to provide a compact arrangement of valves as a space savings.

Hinz et al. teach in col. 1 line 66 – col. 2 line 2 the limitation wherein the pressure sensor of a brake system is integrated in the valve block in a bore accommodating the modulation valves.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the pressure sensor of Enomoto et al., as modified, to have been integrated in the valve block with the valves, in view of the teachings of Hinz et al., in order to provide a means incorporating the pressure sensor with relatively reduced structural efforts as suggested by Hinz et al.

With regards to specifically all of the hydraulic connections between the brake pressure sensor and the separation valve and the inlet valves being formed by bores in the valve block, Examiner turns to Halsey et al.

Halsey et al. teach in col. 3 lines 9-18 that locating components within a housing or block eliminates the need for any external pressure fluid conduits as the various fluid passages are cored openings in the valve block unit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified all of the hydraulic connections between the brake pressure sensor and the separation valve and the inlet valves to have been formed by

Art Unit: 3657

bores in the valve block, in view of the teachings of Halsey et al., in order to provide a means of eliminating the need to have external hydraulic conduits which can be damaged to result in leaks.

Re: claim 29. Maehara teaches in figure 9 the limitation wherein the valve block A, B4 and a piston rod 38 which is used to actuate the brake pressure sensor are connected to a pedal system 37.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the valve block and piston rod of Enomoto et al., as modified, to have been structured, as taught by Maehara, in order to provide a compact construction to save valuable real estate within the vehicle.

Re: claim 32. Enomoto et al., as modified, teach in figure 1 of Enomoto et al. the limitation wherein the brake pressure sensor PS1 is connected to the input connection of the inlet valves via a second current free closed valve V5 disclosed in col. 12 lines 44-51 which is capable of or can be regulated by analog means.

9. Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5568962 to Enomoto et al. in view of US Patent 5069508 to Maehara and 6007162 to Hinz et al. and US Patent 3133611 to Halsey et al. as applied to claim 23 above, and further in view of US Patent 6354674 to Iwamoto et al.

Re: claim 24. Enomoto et al., as modified, teach in figure 1 of Enomoto et al. the limitation wherein the electrohydraulic pressure source consists of a pump PP which is driven by an electromotor disclosed in col. 8 lines 13-14, but is silent with regards to the pump and electromotor also being integrated in the valve block.

Iwamoto et al. teach in figures 1 and 15 the limitation wherein the motor 41, pump 42, and valve 5, and sensor 8 are all integrated within a housing or block 40.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the brake system of Enomoto et al. to have included the pump and electromotor also being integrated in the valve block, in view of the teachings of Iwamoto et al., in order to provide a more compact assembly of parts with improved response time since the components are closer to each other making for quicker interactions.

With regards to specifically all of the hydraulic consisting of bores in the valve block, Examiner turns to Halsey et al.

Halsey et al. teach in col. 3 lines 9-18 that locating components within a housing or block eliminates the need for any external pressure fluid conduits as the various fluid passages are cored openings in the valve block unit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified all of the particular hydraulic connections to have been formed by bores in the valve block, in view of the teachings of Halsey et al., in order to provide a means of eliminating the need to have external hydraulic conduits which can be damaged to result in leaks.

Re: claim 25. Enomoto et al., as modified, teach in figure 1 of Enomoto et al. the limitation wherein the electrohydraulic pressure source consists of a high pressure reservoir ACC which is loaded by means of a motor-pump aggregate (PP and associated electric motor as disclosed in col. 8 lines 13-14).

Re: claim 26. Enomoto et al., as modified, are silent with regards to the pressurizing medium reservoir being arranged on the valve block and formed in its entirety or partially by the valve block.

Iwamoto et al. teach in figure 15 a reservoir being formed in its entirety or partially by the valve block .

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the reservoir of Enomoto et al., as modified, to have been formed entirely or partially by the valve block, as taught by Iwamoto et al., in order to provide a means of forming a more compact structure and enabling fluid to travel a lesser distance to improve system response time.

With regards to specifically all of the hydraulic consisting of bores in the valve block, Examiner turns to Halsey et al.

Halsey et al. teach in col. 3 lines 9-18 that locating components within a housing or block eliminates the need for any external pressure fluid conduits as the various fluid passages are cored openings in the valve block unit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified all of the particular hydraulic connections to have been formed by bores in the valve block, in view of the teachings of Halsey et al., in order to provide a means of eliminating the need to have external hydraulic conduits which can be damaged to result in leaks.

Re: claim 27. Iwamoto et al. teach in figure 1 the limitation wherein an electronic control and regulation unit 3 is attached directly to a valve block 40.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the electronic control and regulation unit to have been attached directly to a valve block of Enomoto et al., as modified, as taught by Iwamoto et al., in order to provide a more compact construction and facilitate assembly.

With regards to the specific limitation regarding the lack of use of lines, Examiner turns to Halsey et al.

Halsey et al. teach in col. 3 lines 9-18 that locating components within a housing or block eliminates the need for any external pressure fluid conduits as the various fluid passages are cored openings in the valve block unit.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified all of the particular connections to have been formed by bores in the valve block, in view of the teachings of Halsey et al., in order to provide a means of eliminating the need to have lines since the bores serve as the necessary conduit in order to reduce the number of parts needed for assembly resulting in a cost savings.

10. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5568962 to Enomoto et al. in view of US Patent 5069508 to Maehara and 6007162 to Hinz et al. and US Patent 3133611 to Halsey et al. and US Patent 6354674 to Iwamoto et al. as applied to claim 27 above, and further in view of US Patent 5971503 to Joyce et al.

Enomoto et al., as modified, is silent with regards to the limitation wherein the hydraulic connection between the pressure source and the reservoir and optionally parts of the pressure medium reservoir can be heated.

Joyce et al. teach in col. 3 lines 10-17 the use of the particular areas set forth above being heated.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the particular areas set forth above of Enomoto et al., as modified, being heated, in view of the teachings of Joyce et al., in order to provide a means of reducing the viscosity of the fluid to ensure rapid flow through the system to improve system response times.

11. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5568962 to Enomoto et al. in view of US Patent 5069508 to Maehara and 6007162 to Hinz et al. and US Patent 3133611 to Halsey et al. as applied to claim 23 above, and further in view of US Patent 5219442 to Burgdorf et al.

Enomoto et al., as modified, are silent with regards to the reservoir presenting a first chamber as well as a second chamber where the aspiration side of the pump and via the outlet valves the wheel brakes are connected to the first chamber while the brake pressure sensor is connected to the second chamber via a first current free closed valve which can be regulated by analog means.

Burgdorf et al. teach in figure 1 a reservoir 14 presenting a first chamber on the left side of the reservoir partition as well as a second chamber on the right side of the reservoir partition where the aspiration side of the pump 16 and via the outlet valves 15

Art Unit: 3657

the wheel brakes 11 are connected to the first chamber while the brake pressure sensor 4 is connected to the second chamber via a first current free closed valve 22 as disclosed in col. 5 lines 9-11 which is capable or can be regulated by analog means as functionally recited.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the arrangement of the pump and outlet valves with respect to the reservoir of Enomoto et al., as modified, to have been structured as taught by Burgdorf et al., in order to provide a means of quickly replenishing the fluid to be circulated throughout the system by the pump.

12. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5568962 to Enomoto et al. in view of US Patent 5069508 to Maehara and 6007162 to Hinz et al. and US Patent 3133611 to Halsey et al. and US Patent 5219442 to Burgdorf et al. as applied to claim 30 above, and further in view of US Patent 4736992 to Hendrickson.

Enomoto et al., as modified, is silent with regards to the presence of one or more devices for detecting the pressurizing medium level in the first and the second chamber.

Hendrickson teaches in figure 1 the use of one device 60 for detecting the pressurizing medium level in the first and second chamber of the reservoir 28.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the reservoir of Enomoto et al., as modified, to have included a device for detecting the medium level, as taught by Hendrickson, in

Art Unit: 3657

order to provide a means of knowing whether there is adequate fluid to ensure proper fluid flow through the braking system.

13. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5568962 to Enomoto et al. in view of US Patent 5069508 to Maehara and 6007162 to Hinz et al. and US Patent 3133611 to Halsey et al. as applied to claim 23 above, and further in view of US Patent 6290310 to Kusano.

Enomoto et al., as modified, teach in Enomoto et al. the limitation of the inlet and outlet valves being designed as electromagnetically 2/2-way control valves but is silent with regards to the two types both being current free open valves.

Kusano teaches in col. 4 lines 19-25 the limitation of the inlet and outlet valves being designed as electromagnetically current free open valves.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the inlet and outlet valves of Enomoto et al., as modified, to have both been current free open valves, in view of the teachings of Kusano, in order to provide an alternate means of controlling fluid flow to and from the wheel brakes. With respect to claim 34 the separation valves may be considered as V3, V4, V5, and V6.

Response to Amendment

14. Examiner notes that the status identifier for previously presented claim 36 has been changed to --(New)--. Since claim 36 is not a new claim, it should not include the "New" status identifier. Also, Examiner notes that on pg. 8 of the Remarks Applicant

referred to the cancellation of claim 45; however, claim 45 was not pending.

Clarification is required.

Response to Arguments

15. Applicant's arguments filed 11/17/10 have been fully considered but they are not persuasive. Applicant argues on pg. 9 of the remarks that, "Maehara discloses two separate elements that have valves and not having all of the hydraulic connections in a single valve block." Examiner notes that the claim language does not preclude the valve block from comprising two elements joined together to form an integral piece. Examiner also notes that the instant specification fails to define the valve block as consisting of a one-piece structure. Therefore, Examiner maintains that it is not improper to consider elements A, B4 as the valve block.

While Applicant admits that Halsey et al. teach that a speed control unit can be located within the transmission housing in order to reduce external lines, Applicant argues that the teaching "is not equivalent to having all of the hydraulic connections between the brake pressure sensor, the separation valve, and the inlet valves formed by bores in the valve block. Halsey et al. can be used merely for the teaching that a transmission device may have an element located within the housing to omit external lines. This is not equivalent to having a hydraulic brake system where the hydraulic connections are formed by bores within a valve block." Examiner disagrees and notes that as shown in figure 8, Halsey et al. teach the speed control unit portions 53 and 54 being located within the transmission housing by being formed within bores in the transmission housing or block. The Halsey et al. teaching that the particular placement

Art Unit: 3657

within the housing or block is for the purpose of reducing external lines is the same purpose suggested by Applicant in the instant invention. See paragraph [0003] of the instant invention. Examiner also notes that the Hinz et al. reference also teaches a connection being formed in a bore of a valve block. While Examiner agrees that it may be unobvious to apply the teaching of Halsey et al. to only some of the connections to eliminate the use of only some external lines by forming the connections in the bores of a valve block or housing, she maintains that it would be obvious to one of ordinary skill in the art to apply the teaching of Halsey et al. to all of the connections of Enomoto et al., as modified, which would include all of the hydraulic connections between the brake pressure sensor, the separation valve, and the inlet valves.

Accordingly, the rejections have been maintained.

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 3657

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 571-272-7114. The examiner can normally be reached on Monday-Friday (6:30 AM-3:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on 571-272-7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mmb

January 27, 2011

/Melody M. Burch/
Primary Examiner, Art Unit 3657